

**CLAIMS**

1. A forklift for mounting on the rear of a carrying vehicle comprising:
  - 5 a U-shaped chassis comprising a rear leg bridged by a pair of forwardly projecting side legs;  
  
ground engaging wheels mounted on the chassis;
  - 10 a driver station mounted on one of the side legs;  
  
a motorised drive mounted on the other side leg;
  - 15 an upright mast mounted on the chassis between the side legs;  
  
means for moving the mast back and forth between the side legs towards and away from the rear leg;
  - 20 a telescopic boom slidably mounted on the mast to project substantially orthogonal to the mast;  
  
means for moving the boom up and down the mast;
  - 25 a fork carrier mounted on a free end of the boom;  
  
lifting forks mounted on the fork carrier; and  
  
means for extending or reducing the length of the boom to move the  
30 fork carrier towards and away from the mast.
2. A forklift as recited in claim 1, in which the means for moving the mast between the side legs comprises:
  - a support frame;

a pivot mounting between the mast and the support frame;

a tilting ram connecting the support frame and the mast;

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rollers mounting the support frame in each side leg; and

a frame moving ram connected between the rear leg and the support frame.

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3. A forklift as recited in claim 1, in which the mast is a two part telescopic mast and comprises:

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a lower inner portion and an upper outer portion embracing the lower inner portion; and

an actuating ram housed within the inner portion and connected between the two portions.

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4. A forklift as recited in claim 1, in which the mast is a two part telescopic mast and comprises:

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a lower inner portion and an upper outer portion embracing the lower inner portion;

an actuating ram housed within the inner portion and connected between the two portions;

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a pair of pulleys, namely an upper pulley and a lower pulley, mounted on the outer portion adjacent each end; and

a pair of drive chains connected to a mounting bracket secured on the outer portion intermediate its ends, one of the chains being led across one of the pulleys and secured to the boom and the other chain being

led across the other pulley and secured to the boom.

5. A forklift as recited in claim 1, in which the mast is a two part telescopic mast and comprises:

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a lower inner portion and an upper outer portion embracing the lower inner portion;

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an actuating ram housed within the inner portion and connected between the two portions;

a pair of pulleys, namely an upper pulley and a lower pulley, mounted on the outer portion adjacent each end; and

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an endless drive chain connected to a mounting bracket secured on the outer portion intermediate its ends and led across each of the pulleys and secured to the boom.

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6. A forklift as recited in claim 1, in which the boom is slidably mounted by a sleeve on the mast and an actuating ram is connected between the sleeve and the free end of the boom.

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7. A forklift as recited in claim 1, in which there is mounted, adjacent the free end of the boom, a ground engaging wheel.

8. A forklift as recited in claim 1, in which a pair of laterally spaced-apart ground engaging wheels are mounted adjacent the free end of the boom, each by a retractable ram, to raise and lower the wheel above and below the forks.

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9. A forklift for mounting on the rear of a carrying vehicle comprising:

a U-shaped chassis comprising a rear leg bridged by a pair of forwardly projecting side legs;

- three ground engaging wheels mounted on the chassis;
- a driver station mounted on one of the side legs;
- 5 a motorised drive mounted on the other side leg;
- an upright telescopic mast mounted on the chassis between the side legs;
- 10 means for moving the mast back and forth between the side legs towards and away from the rear leg;
- a telescopic boom slidably mounted on the mast to project substantially orthogonal to the mast;
- 15 means for moving the boom up and down the mast;
- a fork carrier mounted on a free end of the boom;
- 20 lifting forks mounted on the fork carrier; and
- means for extending or reducing the length of the boom to move the fork carrier towards and away from the mast.
- 25 10. A forklift as recited in claim 9, in which the means for moving the mast between the side legs comprises:
- a support frame;
- 30 a pivot mounting between the mast and the support frame;
- a tilting ram connecting the support frame and the mast;
- rollers mounting the support frame in each side leg; and

a frame moving ram connected between the rear leg and the support frame.

- 5     11.     A forklift as recited in claim 9, in which the mast is a two part telescopic mast and comprises:

a lower inner portion and an upper outer portion embracing the lower inner portion; and

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an actuating ram housed within the inner portion and connected between the two portions.

- 15     12.     A forklift as recited in claim 9, in which the mast is a two part telescopic mast and comprises:

a lower inner portion and an upper outer portion embracing the lower inner portion;

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an actuating ram housed within the inner portion and connected between the two portions;

a pair of pulleys, namely an upper pulley and a lower pulley, mounted on the outer portion adjacent each end; and

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a pair of drive chains connected to a mounting bracket secured on the outer portion intermediate its ends, one of the chains being led across one of the pulleys and secured to the boom and the other chain being led across the other pulley and secured to the boom.

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13.     A forklift as recited in claim 9, in which the mast is a two part telescopic mast and comprises:

a lower inner portion and an upper outer portion embracing the lower

inner portion;

an actuating ram housed within the inner portion and connected between the two portions;

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a pair of pulleys, namely an upper pulley and a lower pulley, mounted on the outer portion adjacent each end; and

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an endless drive chain connected to a mounting bracket secured on the outer portion intermediate its ends and led across each of the pulleys and secured to the boom.

14. A forklift as recited in claim 9, in which the boom is slidably mounted by a sleeve on the mast and an actuating ram is connected between the sleeve and the free end of the boom.

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15. A forklift as recited in claim 9, in which there is mounted, adjacent the free end of the boom, a ground engaging wheel.

20 16. A forklift as recited in claim 9, in which a pair of laterally spaced-apart ground engaging wheels are mounted adjacent the free end of the boom, each by a retractable ram, to raise and lower the wheel above and below the forks.

25 17. A forklift for mounting on the rear of a carrying vehicle comprising:

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a U-shaped chassis comprising a rear leg bridged by a pair of forwardly projecting side legs;

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three ground engaging wheels mounted on the chassis;

a driver station mounted on one of the side legs;

a motorised drive mounted on the other side leg;

- a support frame;
  - an upright telescopic mast on the support frame;
  - 5 a pivot mounting connecting the mast to the support frame;
  - a tilting frame connecting the support frame and the mast;
  - 10 rollers mounting the support frame in each side leg;
  - a frame moving ram connected between the rear leg and the support frame for moving the mast back and forth between the side legs towards and away from the rear leg;
  - 15 a telescopic boom slidably mounted on the mast to project substantially orthogonal to the mast;
  - means for moving the boom up and down the mast;
  - 20 a fork carrier mounted on a free end of the boom;
  - lifting forks mounted on the fork carrier; and
  - means for extending or reducing the length of the boom to move the
  - 25 fork carrier towards and away from the mast.
18. A forklift as recited in claim 17, in which the mast is a two part telescopic mast and comprises:
- 30 a lower inner portion and an upper outer portion embracing the lower inner portion; and
  - an actuating ram housed within the inner portion and connected between the two portions.

19. A forklift as recited in claim 17, in which the mast is a two part telescopic mast and comprises:

5 a lower inner portion and an upper outer portion embracing the lower inner portion;

10 an actuating ram housed within the inner portion and connected between the two portions;

a pair of pulleys, namely an upper pulley and a lower pulley, mounted on the outer portion adjacent each end; and

15 a pair of drive chains connected to a mounting bracket secured on the outer portion intermediate its ends, one of the chains being led across one of the pulleys and secured to the boom and the other chain being led across the other pulley and secured to the boom.

20. A forklift as recited in claim 17, in which the mast is a two part telescopic mast and comprises:

20 a lower inner portion and an upper outer portion embracing the lower inner portion;

25 an actuating ram housed within the inner portion and connected between the two portions;

30 a pair of pulleys, namely an upper pulley and a lower pulley, mounted on the outer portion adjacent each end; and

an endless drive chain connected to a mounting bracket secured on the outer portion intermediate its ends and led across each of the pulleys and secured to the boom.



21. A forklift as recited in claim 17, in which the boom is slidably mounted by a sleeve on the mast and an actuating ram is connected between the sleeve and the free end of the boom.
- 5 22. A forklift as recited in claim 17, in which there is mounted, adjacent the free end of the boom, a ground engaging wheel.
- 10 23. A forklift as recited in claim 17, in which a pair of laterally spaced-apart ground engaging wheels are mounted adjacent the free end of the boom, each by a retractable ram, to raise and lower the wheel above and below the forks.